

论著

# 中药昆布对B-MD-C1(ADR+ /+)耐药细胞逆转作用的体外研究

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**摘要** 背景与目的: 研究昆布提取物(thallus laminariae PE, TLPE)在体外对耐药细胞B-MD-C1(ADR+ /+)的逆转作用, 深入探讨TLPE逆转肿瘤多药耐药的机制。材料与方法: MTT法检测昆布提取物对耐药细胞B-MD-C1(ADR+ /+)的逆转作用, 采用免疫细胞化学方法及流式细胞术检测P-gp蛋白表达的变化。用RT-PCR法检测TLPE作用前后B-MD-C1(ADR+ /+)细胞中多药耐药基因(MDR1)的表达水平。结果: 昆布提取物在体外对B-MD-C1(ADR+ /+)有逆转作用, 逆转倍数为4.65; 免疫细胞化学方法显示, TLPE作用后, B-MD-C1(ADR+ /+)细胞P-gp的表达降低; 流式细胞术结果显示, TLPE处理后细胞的荧光表达量降低, 且与TLPE浓度呈依赖性; RT-PCR结果表明, TLPE可以使B-MD-C1(ADR+ /+)细胞的MDR1 mRNA表达减弱。结论: 昆布提取物具有逆转B-MD-C1(ADR+ /+)的作用, 其逆转作用与降低P-gp的表达有关, 具有临床应用前景。

**关键词** [昆布提取物](#); [多药耐药](#); [P-gp蛋白](#); [MDR1基因](#)

## Reversing Effect of Thallus Laminariae PE on Drug Resistance in B-MD-C1(ADR+ /+)Cell Line

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**Abstract** **BACKGROUND & AIM:** To investigate the reversing effect of Chinese drug thallus laminariae PE on drug resistance B-MD-C1(ADR+ /+)cell line, and to identify the mechanism of TLPE in reversing the multidrug resistance. **MATERIALS AND METHODS:** MTT assay was used to determine the reversing effect of TLPE and reversal fold; cytoimmunochemistry and flow cytometry were used to assess the expression of P-gp in the level of protein. RT-PCR was used to detect the level of MDR1 gene treated by TLPE. **RESULTS:** TLPE had reversing effect on B-MD-C1(ADR+ /+)in vitro and the reversal fold was 4.65. Cytoimmunochemistry showed that TLPE could decrease the expression of P-gp. Flow cytometry showed that TLPE could decrease the expression of P-gp with dose-dependence. RT-PCR suggested that TLPE could reduce the MDR1 gene of B-MD-C1(ADR+ /+). **CONCLUSION:** TLPE could exert reversing effect in B-MD-C1(ADR+ /+)by decreasing the expression of P-gp.

**Keywords** [thallus laminariae PE](#) [multidrug resistance](#) [P-gp protein](#) [MDR1 gene](#)

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